

I claim:

1 1. A button assembly comprising:

2 a first cantilevered beam (30) having a first end and a second end, the first end being
3 configured to be attached to an electronic input device through a first fulcrum (28) at the first end;

4 a second cantilevered beam (36) having

5 an exposed button portion (37), the second cantilevered beam being attached
6 to the first cantilevered beam through
7 a second fulcrum (32).

1 2. The button assembly of claim 1 wherein the second fulcrum attaches the

2 second cantilevered beam to the first cantilevered beam at the second end of the first cantilevered
3 beam.

1 3. The button assembly of claim 1 further comprising a plunger (20') attached

2 to the second cantilevered beam and extending from the second cantilevered beam through the first
3 cantilevered beam.

1 4. The button assembly of claim 3 wherein the button assembly is molded from

2 plastic as a single piece.

1 5. A computer pointing input device comprising:

2 a housing;

3 a palm portion of the housing configured to receive a user's hand;

4 a distal portion of the housing extending generally away from the palm portion; and

5 a switch button having a palm end and a distal end, the switch button being

6 configured to actuate an electronic switch within the computer pointing input device upon

7 application of sufficient force to the switch button by the user, the switch button being movably

8 coupled to the housing so as to move about a fulcrum, the fulcrum being nearer to the distal end

9 than to the palm end of the switch button.

1 6. The computer pointing input device of claim 5 wherein a first force is
2 required to be applied to the switch button to actuate the electronic switch at the distal end and a
3 second force is required to be applied to the switch button to actuate the electronic switch at the
4 palm end, the first force being greater than the second force.

1 7. The computer pointing input device of claim 6 wherein the first force is at
2 least two times greater than the second force and a distance from the palm end of the switch button
3 to the distal end of the switch button is at least 3 cm.

1 8. The computer pointing input device of claim 7 wherein the first force is about
2 1 Newton and the second force is about 0.5 Newtons.

1 9. The computer pointing input device of claim of claim 5 further comprising:
2 a spring beam having a first end and a second end, the spring beam being coupled to
3 the switch button through the fulcrum at the first end and being coupled to the housing at the second
4 end through
5 a second fulcrum.

1 10. The computer pointing device of claim 9 wherein a first force is required to
2 be applied to the switch button to actuate the electronic switch at the distal end and a second force is
3 required to be applied to the switch button to actuate the electronic switch at the palm end, the first
4 force being greater than the second force.

1 11. The computer pointing device of claim 9 wherein the first force is at least two
2 times greater than the second force and a distance from the palm end of the switch button to the
3 distal end of the switch button is at least 3 cm.

1 12. The computer pointing input device of claim 11 wherein the first force is
2 about 1.2 Newtons and the second force is about 0.6 Newtons.

1 13. The computer pointing device of claim 9 wherein a first force is required to
2 be applied to the switch button to actuate the electronic switch at the distal end and a second force is
3 required to be applied to the switch button to actuate the electronic switch at the palm end, a

4 difference between the first force and the second force being equal to or less than 0.15 Newtons,
5 wherein a distance from the distal end of the switch button and the palm end of the switch button is
6 at least 3 cm.

1 14. The computer pointing device of claim 13 wherein the first force is between
2 about 0.5-0.7 Newtons and the second force is between about 0.5-0.7 Newtons.

1 15. A computer pointing input device comprising:
2 a housing;
3 a palm portion of the housing configured to receive a user's hand;
4 a spring beam flexibly coupled to the housing through
5 a first fulcrum;
6 a switch button having a palm end and a finger end, the switch button being flexibly
7 coupled to the spring beam through
8 a second fulcrum, the second fulcrum being nearer to the finger end of the switch
9 button than to the palm end of the switch button;
10 a plunger coupled to the switch button and extending toward
11 an electronic switch, the plunger being configured to actuate the electronic switch
12 upon application of a sufficient force to the switch button by the user.

1 16. The computer pointing device of claim 15 wherein the plunger extends
2 through the spring beam.

1 17. The computer pointing device of claim 15 wherein a distance between the
2 finger end of the switch button and the palm end of the switch button is about 3 cm and the
3 sufficient force varies from a first force at the finger end of the switch button to a second force at
4 the palm end of the switch button, the first force being greater than the second force by a factor of
5 about two.

1 18. The computer pointing device of claim 17 wherein the first force is less than
2 about 1.2 Newtons and the second force is less than about 0.6 Newtons.

1 19. The computer pointing device of claim 15 wherein the computer pointing

2 device is a computer mouse.

1 20. The computer pointing device of claim 15 wherein the spring beam has a first
2 end and a second end, the first fulcrum flexibly coupling the spring beam to the housing at the first
3 end of the spring beam and the second fulcrum flexibly coupling the spring beam to the switch
4 button at the second end of the spring beam.